

stop to the more or less extensive outbreaks of diphtheria which in spite of all precautions had occurred from time to time. This together with the substantial results reported from Auburn, N. Y., and New Haven, Conn., were sufficient to impress upon health authorities a new responsibility and a crystallizing opinion is emphasizing nowadays more and more the protection of children before 18 months of age and at the latest, prior to the time of school attendance.

The leading pediatricians of the larger cities of the Pacific Coast are rapidly immunizing children within their sphere of influence. It remains to be seen how rapidly others in the profession will follow their example.

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### Dermatology and Syphilology

**SCHAMBERG** and his coworkers using various gold compounds, particularly gold and sodium thiosulphate, have been able to demonstrate a decidedly curative effect, and a prolongation of life, in cases of experimental inoculation tuberculosis in animals.<sup>1</sup> More recently<sup>2</sup> they have obtained truly excellent results in the treatment of lupus erythematosus by means of intravenous injections of gold and sodium thiosulphate. This dermatosis, most cases of which Schamberg regards as tuberculous, is notoriously resistant to treatment. Therefore a remedy with positive value is very welcome.

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### Gastrointestinal Disorders

**ACHYLIA**—The recent appearance of an article entitled "The Clinical Significance of Achylia Gastrica"<sup>3</sup> again stimulates thought regarding a subject frequently lost sight of owing to the fact that examination of the gastric contents is rarely routine for patients with gastrointestinal complaint coming before the average physician.

The first premise in discussing achylia is to definitely decide what constitutes this condition. The conclusion universally adopted is the absolute lack of any hydrochloric acid in the gastric contents at all times. Along with this absence must also be the corresponding lack of ferments. To disclose the absence of acid and ferments in the secretion a definite routine must be followed. Even today many physicians continue to use the old single test of extracting the gastric contents at one hour after the test meal with the large Ewald tube. The absence of hydrochloric acid in this test has caused many diagnoses of achylia when better tests later showed the presence of an abundance of acid. The fractional method of studying the gastric content as developed by Rehfuß<sup>4</sup> always should be used to the exclusion of the single test. Only by a study of

the stomach content every fifteen minutes from the fasting period through two hours of the digestive period will the true condition be revealed. If no hydrochloric acid is found up to the first hour it may appear during the second hour. Thus a "psychic" secretion due to apprehension in facing the test is replaced by the "chemical" secretion in the second hour.

With findings warranting the diagnosis of achylia gastrica the problem is to determine the cause and its significance. Friedenwald and Morrison find two types of achylia: (1) primary where the total acid is very low, and (2) secondary where the total acid is much higher. In the first type several members of the same family may have achylia and the condition may be found in the first two decades. The second type follows various depleting conditions such as acute fevers, malignant tumors, and anemias. The authors have rarely found a return to normal secretion when true achylia has been demonstrated. Such findings appeared in neurasthenics.

The fact that true achylia has been found in patients who develop pernicious anemia opens a subject for discussion as to its bearing on the anemia state. Such a discussion introduces a large amount of evidence that needs individual consideration.

There are three classes of patients in whom these authors find achylia. Those of the first group have no gastrointestinal symptoms and are apparently in good health; those of the second have a greater or less number of gastric symptoms, while the third group have slight or no gastric symptoms but have marked intestinal disturbances.

The largest number of patients appear in the second group, in whom the condition appears more frequently between the ages of 30 and 60 years and is more common in females than males.

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### Ophthalmology

**INCIPIENT Cataract**—An effective method of checking the progress and removing the opacities in a beginning cataract has been long sought. Various remedies have been used, and good results reported. Green<sup>1</sup> reported 58 per cent and 25 per cent arrested by the use of mercury cyanid injections. Franklin and Cordes<sup>2</sup> reported 84.3 per cent improved by the use of radium. Harkness<sup>3</sup> reports sixteen patients treated with milk injections and was disappointed with the results. He sent out questionnaires to forty teachers of ophthalmology in Class A medical colleges; the great majority of these teachers do not think that any known remedy is of any service except the removal of foci of infection and improvement of the general physical conditions; a few believe that they have had good results from medical treatments including dionin, iodine therapy, locally and internally, with dietetic supervision, the removal of the foci of infec-

<sup>1</sup> Arch. Derm. and Syph., Vol. 14, No. 1, p. 43.

<sup>2</sup> Arch. Derm. and Syph., Vol. 15, No. 2, p. 119.

<sup>3</sup> Friedenwald and Morrison: Annals of Clinical Medicine, 1926, Vol. No. 4, p. 319.

<sup>4</sup> Rehfuß: J. American Medical Association, 1914, 63, p. 11.

<sup>1</sup> Green, A. S. and L. D.: American Journal of Ophthalmology, 1919, Vol. 2, p. 423.

<sup>2</sup> Franklin, W. S., and Cordes, F. C.: American Journal of Ophthalmology, 1920, Vol. 3, p. 643.

<sup>3</sup> Harkness: American Journal of Ophthalmology, 1925, Vol. 8, No. 2, p. 132.

tion and the improvement of the general metabolism. As Harkness says, the slitlamp will prove of value in studying lenticular changes, and thus enable us to institute treatment before there is loss of vision or changes that we can detect by the ophthalmoscope. It will at least tell us whether we are dealing with a purely senile type or a complicated cataract.

Davis,<sup>4</sup> who claims to have had twenty-three years of experience with lens antigen, and five years in the treatment of incipient cataract, and with it having treated over 250 patients, in 85 per cent of whom the progress was checked. The lens antigen is most effective in the ordinary subcapsular type, while it has little or no effect on the nuclear type. Diabetic cataracts are favorably influenced. Heart disease, high blood pressure, and diabetics are not contraindications to treatment. Every refraction should be made with the pupils dilated, and a careful examination of the lens made at the same time. Should lens changes be present, treatments should be begun at once.

Anaphylactic shock has been of extremely rare occurrence and of light form since subcutaneous rather than intravenous methods of injections have been used. A sensitization test is the first given, and the reactions following the therapeutic injections are carefully noted during the course of the treatment. When the reaction to the sensitization test is very marked, as noted by the swelling and redness at the site of the injection, the therapeutic injections should be given with special care. Symptoms that the patient is reaching his toleration limit are manifested by uneasiness, restlessness, dull headaches, or dizziness.

Davis prepares his own lens antigen from fresh beef eyes; the protein content of the solution is about 2 per cent. Fifty doses constitute a course of treatment given over a period of two months. It will be interesting to watch the results of reports from other investigators.

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### Pediatrics

**SUGGESTIVE** Developments in Heliotherapy—Much evidence is being accumulated indicating the value of sunshine in the prevention and treatment of certain conditions.

Alfred Hess<sup>1</sup> and L. R. De Buys,<sup>2</sup> and others, using rats which are very susceptible to rickets for experimental studies, have shown how calcium is deposited in the bones under the influence of appropriate light rays, thus curing rickets; and that the phosphorous of the blood serum is increased even when the diet was deficient.

In these experiments the rays used were those of the carbon arc lamp, the air-cooled quartz lamp, or

the direct rays of the sun. The two first types, because of ready accessibility at all times and in any surroundings, were most satisfactory. The quartz lamp is considered to be about thirty times as effective as direct sunlight. Pigment in the skin of colored people, or fur as in black rats, caused a slowing up of the action of these rays or even a complete inhibition of their action when the same dosage was used as for unpigmented skins and white-furred animals. De Buys'<sup>3</sup> findings that rickets is just as prevalent among colored infants in the South as among the whites, whether in the country districts or the city, and with similar diets, seem to support the experimental evidence.

The action of the sun's rays is, of course, inhibited by dust and smoke in the air, hence the greater tendency to sunburn when on mountain trips, or when on the water in an open boat. To get the best results from heliotherapy there must be very little foreign matter floating in the air. Also window glass, because of the lead it contains, cuts out valuable ultra-violet rays. This explains why the sunshine streaming in through window glass, while it is warming, has no curative or bacterial power other than drying.

That diseases other than rickets are benefited by the sun's rays, is shown by the work of Rollier on bone, glandular and peritoneal tuberculosis.

Hess<sup>4</sup> has irradiated a nursing woman by means of the quartz light and "brought about a marked increase in the antirachitic potency of her milk." He also suggested that this would prevent the nursing infant from having rickets and at the same time conserve the mother's own calcium and phosphorous. These findings suggest the advisability of letting the nursing mother have as much out-of-door life as possible, particularly in the direct rays of the sun, with the hopes of developing the antirachitic properties of the breast milk. Aiding in the conservation of the calcium and phosphorous by exposure to direct sunlight or artificially produced heliotherapy, may decrease the loss of teeth in the pregnant woman and possibly conserve her store of lime. The thought is enticing and it seems well worth future study.

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### Physical Therapeutics

**IT** is gratifying to read<sup>1</sup> in the February issue of CALIFORNIA AND WESTERN MEDICINE, A. B. Hirsch's observations on the pioneers in physiotherapy. The physician who has failed to utilize the physical therapeutics when indicated has deprived himself of valuable facilities. When the American Medical Association published the report of the committee on present status of physical therapy after the<sup>2</sup> establishment of the Council of Physical Ther-

4. Davis: The Year Book, 1926, p. 132.

1. Hess, Alfred F., and Unger, L. J.: Interpretation of Seasonal Variation of Rickets, Journal American Medical Association, lxxvii 39, July 2, 1921.

2. De Buys, L. R.: Rickets, Illinois Medical Journal, Vol. 47, No. 6, p. 413, June, 1925. (Note extensive bibliography.)

3. De Buys, L. R.: Trans. American Pediatric Society, Vol. xxxiii, 1921, p. 160. (Discussion.)

4. Hess, Alfred F.; Weinstock, Mildred; Sherman, Elizabeth: Antirachitic Properties Developed in Human Milk by Irradiating the Mother, Journal American Medical Association, 88, 24, January 1, 1927.

1. California and Western Medicine, 2, 1927, p. 242.

2. J. A. M. A., 10, 24, 1925.